

Tropical Italy: Sicily's Mango and Avocado Boom

Article by Francesco Bellina, Stefano Liberti

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A small agricultural revolution is underway in Sicily, where farmers are taking advantage of warming temperatures to bring new fruits to market. But will this be enough to turn the fortunes of southern Italian farming, which is increasingly grappling with droughts and other climate impacts?

"When I started, no one believed in me," says Pietro Cuccio, holding a perfectly ripe mango in his hand. The 70-year-old former architect is a pioneer: more than 20 years ago, he had the idea of planting tropical fruit trees in Sicily, becoming the first person to do so. Now he grows mango, avocado, lychee, and passion fruit at the headquarters of his company, Cupitur, in Caronia, on the island's northern coast. Cupitur has been producing these exotic fruits since 2000. They grow in the shadow of the Nebrodi mountains that slope wildly towards the sea, and are sold throughout Europe.

The main markets for his produce are Germany, Switzerland, and the United Kingdom. But the hunger for these crops is also growing among Italians, so much so that Istat, the country's national statistics institute, includes mango and avocado in the consumer price index basket. The price is excellent for producers, and the income opportunities are compelling. "I sell mangoes for 3 to 5 euros per kilo, depending on the variety, quality and appearance," Cuccio says. "If you consider that lemons have reached 20 cents, you understand that the price of tropical fruit can be a driving force for a more profitable agriculture."

Cuccio lived in the United States for 30 years, first in Los Angeles, then in Hawaii, where he began to dedicate himself to the production of mango. Then, at the beginning of the 2000s, he returned to Sicily to cultivate the same fruit with which he had made his fortune on the other side of the world. "At first they thought I was crazy," he says of his fellow farmers. "But now I can say that my intuition was right."



Avocado trees in Sant'Agata di Militello, Messina, Sicily, 2022. ©FRANCESCO BELLINA

With the help of agronomists from the University of Palermo, he found suitable soil and experimented with multiple varieties, planting different species and studying their adaptation to the territory. Eventually he won his bet: today he produces 20,000 kilos of mango, 12,000 kilos of lychee, and 10,000 kilos of avocado annually. While Cuccio works with a trusted agronomist, as well as a handful of workers assigned to harvesting, he controls everything himself. He follows the progress of the plants, the degree of maturation, fertilisation, and biological control techniques. “We have few problems with birds and parasites,” he notes. “As our fruits are non-native, animals don’t recognise them.”

The mango trees grow lush behind a system of nets that protects them from the wind. The plants are not stacked close together as in Italian apple, pear, and peach orchards. They are left to grow at a distance, each with their own space. Cuccio enjoys talking about the different varieties and the multiplicity of fruit he grows, their ripening periods and organoleptic characteristics. There is Tommy Atkins, with his purple skin, Keitt, with a very sweet pulp and no fibre, and juicy Maya. Then there is Kensington Pride, the original creature, the one with which the experiment in Sicily began. Seventeen different types of mango are being grown here, and the team at Cupitur are experimenting with others.

Wager won

Cuccio’s success paved the way for others who realised that there was a potential market and optimal climatic conditions. His company is now the object of pilgrimages: dozens of farmers come to meet him and visit his fields. They ask for advice and information as to how they might also enter the business. The example of Cupitur, and the dozens of other agricultural companies that have followed it, is an emblematic case of agricultural adaptation to climate change. Being at the centre of the Mediterranean region, where the effects of global warming manifest themselves most visibly, Sicily and southern Italy are experiencing new temperature records every year. In the summer of 2021, the Siracusa province in southeastern Sicily saw temperatures reach 48.8 degrees Celsius – the highest ever recorded in Europe. But it is the mild winters, with temperatures never dropping below zero, that make conditions ideal for growing tropical crops.

“Today the climate helps,” says Cuccio. “Mango plants suffer when it gets close to zero; they die if it drops to minus four. However, they grow well in sunny and very hot spring times and summers. Let’s say that the current temperatures are

particularly favourable, and it is likely that they will be increasingly so.”



Avocado tree in fruit. Sant'Agata di Militello, Messina, Sicily, 2022. ©FRANCESCO BELLINA

Cuccio and the entrepreneurs who have followed his lead have found a way to transform a problem into an opportunity, becoming the vanguard of an agricultural boom. Since 2004, the number of hectares cultivated with mangoes and avocados in Italy have risen from just 10 to 1200, according to [estimates by Coldiretti](#), Italy's main agricultural organisation.

Shrinking pears

This growth counterbalances the collapse of other fruit and vegetable harvests in Italy. The droughts, prolonged heatwaves, and the increase in extreme weather events that have affected the peninsula and the Mediterranean area in recent years are having a devastating impact on Italian agricultural production.

According to data from the European Severe Weather Database (ESWD), there were 3,468 extreme weather events in Italy in 2023, or almost 10 per day. The hailstorms, torrential rains, and 80 kilometre-per-hour winds that hit Italy last year caused extensive damage. The general trends are worrying: the production of pears experienced a 75 per cent drop in 2023 compared to 2018; cultivated hectares of kiwis, of which Italy is the world's second-largest producer after New Zealand, have decreased by 50 per cent in the last 10 years.

Medium-term forecasts from the European Environment Agency are equally discouraging: a report published in 2019 predicted a collapse in the productivity of agricultural land in southern Europe, with the potential for crops such as wheat, corn, and beet to decline by 50 per cent. Coldiretti puts the damage to Italy's agricultural sector caused by climate change over the past year at 6 billion euros.



Mangoes growing in a greenhouse on Maruzza Cupane's farm MaruMango. Rocca di Capri Leone, Messina, Sicily, 2022. ©FRANCESCO BELLINA

Can these losses be compensated by growth in tropical fruit production? Is Italy destined to change its agricultural model and replace traditional crops, such as citrus fruits, tomatoes and cereals, with mango and avocado plantations?

“I wouldn't talk about replacement, rather about rediscovering a vocation,” says Andrea Passanisi. “This is precisely what we are doing. We have introduced something new, thanks to a terrain that allows us to do so, without denying our traditions.”

Going big

If Cuccio is the pioneer, Passanisi is the main proponent in Sicily today of developing tropical fruit production. Several years ago, the farmer, who hails from Giarre, a town on the slopes of Mount Etna, began producing Hass avocados – the popular supermarket shelf variety whose skin blackens when the fruit ripens. The 39-year-old entrepreneur says that the idea came to him during a trip to Brazil 10 years ago, when he saw and tasted the lush tropical fruits. Upon returning to Sicily, he asked his grandfather if he could carry out some experiments on the family land, and discovered that avocados grew very well.



Inside the farm of Maruzza Cupane. Rocca di Capri Leone, Messina, Sicily, 2022. ©FRANCESCO BELLINA

Since then, his business, which markets a “zero kilometre” avocado, has expanded. Today, Passanisi manages “Sicilia Avocado”, a consortium of 43 companies that grow avocado, mango, passion fruit, lychee, and papaya on 188 hectares of land between Giarre and Acireale. Each year the consortium produces some 1400 tonnes of tropical fruit. It works regularly with some of the main Italian large-scale retail chains, as well as with foreign retailers, and has an online shop that boasts 70,000 active users. He recently experimented with a new production: avocado oil, which he produces in a local mill.

Passanisi has exploited the shift in weather conditions in southern Europe, and says that climate change partly favours exotic fruit production. But not all that glitters is gold. “Of course, the temperatures are higher and the plants don’t freeze. But we too are subject to frequent extreme events that can damage the trees.”

Avocado fever

If hectares increase and production grows, it’ll be because demand is on the up – nationally, as well as across Europe, and even globally. According to a study carried out by [CSO Italy](#), a research centre created by farmer organisations in northern Italy, avocado purchases grew eightfold from 2012 to 2022 in Italy. “Over the last five years, the volume of avocados that Italian families bring into their homes has more than tripled and even quadrupled in terms of expenditure,” says Daria Lodi, who led the study.

The vast majority of avocados purchased in Europe come from South America, especially Peru, Chile, and Colombia. But their significant water needs mean that cultivation of avocados has had an adverse effect on ecosystems in those countries. In Chile, which is affected by persistent drought, the impact of avocado farming on water reserves has come to the attention of the United Nations. The UN’s 2014-2020 special envoy for the right to water, Léo Heller, asked the Chilean government to clarify its position regarding the intensive cultivation of fruit in the central region of Valparaíso, where plantations are depriving residents of drinking water.

Italian producers have developed a communication strategy that focuses on localism. “From the end of October to May/June we offer fruit with a precise identity, Sicilian but also Italian, a local product ... enhanced also with quality, because what comes from abroad is still an excellent product,” says Passanisi.

But the number of avocados produced in Sicily are not even close to covering national demand. Compared to the 47 million kilos imported into Italy in 2022, local production stands at between 1 and 2 million (there are no official figures, only estimates made by sector operators).

Uncertain future

“I still estimate seven to eight years of growth in production, driven by good prices and market demand,” continues Passanisi. “But there is a limit: avocado can only be grown in suitable areas, where there is a certain type of soil and an abundance of water, such as the one on the slopes of Etna where we are.”

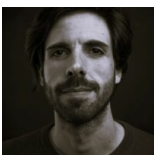


Sicilian coffee cultivation. Palermo, Sicily, 2022. ©FRANCESCO BELLINA

In the meantime, other regions of southern Italy, from Calabria to Puglia, are taking up avocado production. And other types of tropical crops are being experimented with. Palermo, for instance, is testing the production of bananas and coffee.

There is no certainty that these other products will take hold, nor that the slopes of Etna and elsewhere will be able to produce continually high yields of avocados and other tropical fruits. But if climate trends continue as they are, this land of citrus fruits could, in the near or far future, be one of bananas, mangoes, and other once-exotic imports.

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